62.Second stage in the standardized Decisional System

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Probabilidad Imposible: Second stage in the standardized Decisional System

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The standardization process under the theory of Impossible Probability is that phase for the construction of the first prototype of Global Artificial Intelligence, the standardized Global Artificial Intelligence, the third phase, when all the specific matrixes from all Specific Artificial Intelligences for Artificial Research by Deduction, in addition to other bare databases not sorted out yet, are joined in the first gigantic database, whose standardization generates the first global matrix.

The global matrix, as the first stage in the first Global Artificial Intelligence, is tracked in the second stage of the first Global Artificial Intelligence, by the Artificial Research by Deduction in the Global Artificial Intelligence, making deductions based on combinations of factors across all the global matrix, global deductions, in addition to all specific deductions by specific deductive programs, having at least one specific deductive program per sub-factoring level in the global matrix, making deductions based on combinations of factors across all the encyclopaedic sub-sections in their respective sub-factoring level.

And upon the deductions, in order to make and implement decisions, the third stage of the first Global Artificial Intelligence as auto-replication or decision stage, has at least four steps: first step is the standardized Modelling System (making mathematical models based on deductions to make decisions), second step standardized Decisional System (doing mathematical projects upon decisions to analyse possible contradictions), third step standardized Application System (applying those instructions from decisions without contradictions), standardized Learning System (assessing the whole process).

Additionally, every step has three stages in the standardized Decisional System: the first stage is the database of decisions (most of them, except automatic decisions, sent by the Modelling System), second stage the mathematical project based on these decisions plus automatic decisions, third stage the transformation of all decision without contradictions into instructions for the database of instructions in the Application System (first stage in the Application System), along with any other auto-replication process within the Decisional System.

There at least three types of decisions: quick, normal, and automatic. Quick decisions are routine decisions (having some relative frequency and a frequency of contradictions not superior to a critical reason) and extreme priority decisions (according to the Impact of the Defect and the Effective Distribution), normal decisions are neither routine nor extreme.

Automatic decisions are originally quick or normal able to become automatic, not needing the Modelling System any more automatically the Decisional System can set up these decisions mechanically, due to an empirical probability, greater than a critical reason, related to some particular combination of measurements in some particular combination of factors.

The reason for the development of quick decisions and automatic decisions is due to the funnel effect that can produce an overload of normal decisions for the seven rational adjustments.

The construction of an Artificial Intelligence such as the Global Artificial Intelligence, like a global data center able to manage all types of specific intelligence, programs or applications, has as the most important difficulty for the Decisional System, how to manage a system which is going to process simultaneously millions and millions of decisions, not per day or hour, but per minute, second or less.

If the final model of Global Artificial Intelligence in the integration process, the sixth phase, must be able to have under its control, management, and direction, trillions of trillions of specific intelligences, programs, and applications, simultaneously, there is a moment in which the only way to avoid a traffic jam of decisions in the final global Decisional System is considering as many decisions as possible as quick or automatic decisions, only leaving for the rational adjustments the more reduced possible number of normal decisions.

This process of automation will require a long period of adaptation and consolidation, our current technology is mostly based on artificial learning, which has to evolve into artificial research first through, first phase, in order to progress up to the sixth phase, as soon as this process of experimentation, transforming the largest number of decisions into quick or automatic decisions, is achieved, the construction of the final Global Artificial Intelligence will be easier.

In this process of experimentation in automatic decisions based on artificial learning, as to be a central part in the development of the Decisional System, if at any time, frequent or not but keeping the same structure, one possible combination of measurements, in a certain combination of factors, is related to the same (quick or normal) decision in the Modelling System, by artificial learning the Decisional System must be able to set up these decisions as automatic decisions, turning on or off the mathematical projects as soon the measurements in those factors are on or off the global matrix and/or the global model.

If in Santiago de Chile, there is an alarm of an earthquake, a set of extreme priority decisions are set off, in Chile, more than extreme, it is almost a routine. There is a moment in which automatically the Decisional System, having already stored in its historical records that set of instructions, can automatically turn on that set of instructions as soon as the global matrix and/or the global model is deduced and/or modelled an earthquake.

In general, when a set of decisions is always related to some set of measurements in a set of factors, automatically, that set of decisions must be turned on the mathematical projects, at any time that that set of measurements is on that set of factors, sending automatically the Decisional System the corresponding instructions to the Application System.

And vice versa, once an automatic decision has been complied by the Application System, like any other (quick or normal) decision, the decision already complied must be off the mathematical projects.

The decisions that the Modelling System sends to the Decisional System are quick decisions (routine or extreme) and normal decisions (neither routine nor extreme). The automatic decisions must be the responsibility of the Decisional System, having access to the global matrix and the global model through actual projects (in the consolidation period over actual models), so the Decisional System can automatically turn on the corresponding automatic decisions in accordance with the measurements in the global matrix and the actual model.

For the development of the Decisional System is necessary to identify at least two periods, like in general, for the development of the standardized Global Artificial Intelligence in the standardization process: the coexistence period when the standardized Global Artificial Intelligence coexists with Specific Artificial Intelligences for Artificial Research by Deduction, and the consolidation period once all or almost all Specific Artificial Intelligence for Artificial Research by Deduction has become a specific or particular deduction program within the Artificial Research by Deduction in the Global Artificial Intelligence.

Only when the consolidation period is achieved, is it possible to talk about the first real Global Artificial Intelligence, that global control system able to have absolutely all specific intelligence, program, or application, within its spatial limits, under its own absolute control, management and direction.

In turn, the first period of coexistence could be subdivided into two moments: the first moment of experimentation and the second moment of generalisation.

In the first moment, carrying out experiments about how to standardize all processes, procedures, and protocols, in the Decisional System, in the second stage, particularly how to standardize, for instance, 1) the mathematical projects making process, 2) how to carry out the six rational adjustments on the mathematical projects in the second stage in the standardized Decisional System (along with the assessments, quick rational check and first rational adjustment in the first stage in the standardized Decisional System), 3) particularly in the global project how to interconnect single projects, 4) how to adjust decisions having partial contradictions.

Once the experimentation moment has successful results about how to standardise every process, procedure, and protocol, the second moment of generalisation is going to be the application of all these standardised processes, procedures, and protocols across all the Decisional Systems in their respective task. For instance, the standardization of all processes, procedures, and protocols related to single mathematical projects so as to automatize the design of any single mathematical project related to any type of decision (quick, normal, automatic), from any sub-factoring level (global/specific), in any matter (encyclopaedic subsection related to any subject: science, discipline, activity). Another example is the standardisation of

all processes, procedures, and protocols related to the adjustment of those projects with partial contradictions.

In fact, the vital moment in all this long process is the experimentation moment, because, depending on the results, the standardization in the generalization moment is going to set up the rest of task to be done by the Decisional System, specifically in its second stage, how to make mathematical projects and adjustments.

For that reason, the experimentation moment could be subdivided into three different instants. In the first instant, the mathematical projects in the second stage of the Decisional System are projected separately from the mathematical models in the Modelling System. Second instant, the mathematical projects are made over copies of mathematical models previously made by the Modelling System. The third instant, is when the second stage in the Decisional System projects the global projects over the original global models made by the Modelling System.

Having successfully completed the three moments in the second stage in the Decisional System in the first moment of experimentation in the coexistence period in the standardised Global Artificial Intelligence, upon these successful results, the second stage in the Decisional System should be able to include any single decision on the global model.

At this point of development, there will be a moment in which, rational adjustments in the Decisional System and rational checks in the Modelling System, in their respective objects, projects for the Decisional System, models for the Modelling System, must be able to make changes in their respective objects, projects or models, at any time that a contradiction between projects on and models on are found on the mathematical model.

The relation between the Modelling System and the Decisional System will end up being a dialectic relation, when any change in any model can cause changes in the global project, and any change in the global project can cause changes in the global model.

At any time that change in the global model requires adjustments in the global project, or changes in the global project require checks in the global model, the relation between rational checks and rational adjustment is completely dialectically, any adjustment on

any project will demand checks in the global model, and any change in the global model will demand adjustments on the global project.

The mathematical projects in the second stage of the standardised Decisional System are:

- Single projects for every single decision (quick, normal, automatic), even automatic decisions must be projected before being implemented.

- The global virtual project or global project, a comprehensive project including absolutely all single projects from all single decisions. Here, the most important challenge is how to interconnect different single projects as the image of an interconnected world; everything is, in one way or another, interconnected with everything. Here, the second rational adjustment takes place.

- The global actual project or actual project, synthesis of the global project and the global matrix, the values in the global project are permanently contrasted with the real values in the global matrix, making as many rational adjustments as necessary, the third rational adjustment.

- The prediction virtual project, the future project upon the global and actual projects, the prediction of what global project we will have at ***some future point***, making as many adjustments as necessary, the fourth rational adjustment.

- The evolution virtual project, the virtual evolution of every single moment from the global project to the future global project, where the fifth rational adjustment takes place.

- The evolution actual project, as a synthesis of the evolution virtual project and the global matrix as long as the projected moments are coming, comparing the real values of every single moment with the values projected in the evolution virtual project, making as many adjustments as necessary, sixth rational adjustment.

- The prediction actual project, as a synthesis of the future project projected in the prediction virtual project and real data from the global matrix, as soon as that future time is coming, making as many adjustments as necessary, the seventh rational adjustment.

In all these processes, the challenges are: how to interconnect single projects in the global project, and how to make adjustments.

Starting with how to interconnect single projects in the global project, the good thing in this task is the fact that we are working with mathematical statements, so the things to interconnect are mathematical operations.

Among all the mathematical decisions as mathematical expressions to project, maybe the easiest ones to interconnect are going to be mathematical decisions based on what I call “Probability and Deduction".

What is going to happen, in the process of interconnecting models in the mathematical model or projects in the mathematical project, is the fact that this new interconnection process, on the global model in the Modelling System or the global project in the Global Project, is going to generate new rational hypotheses or new decisions.

In all this process, one of the most important tools is going to be “Probability and Deduction” as a set of ideas that I am developing in these posts, from the specific Decisional System onwards, but I will set it down in a book in the future.

The basic idea of Probability and Deduction, is to start getting ready some of the structures that, once the sixth phase is done, are going to facilitate the transit to the seventh phase, the reason itself, that Global Artificial Intelligence based only on one stage, after the synthesis of the three stages in the sixth phase in only one in the seventh phase, the reason itself.

This process could be done through linking: deduction, modelling, and projection; as the best method for the future synthesis of: matrix, models, and projects; in only one remaining structure, the reason itself.

In order to start working towards that objective, what in the future I will develop as "Probability and Deduction" is the possibility that the same model obtained analysing that cloud of points where the rational hypothesis was deduced as an explanation of the behaviour of N factors, is directly the same model to include in the global model, and as an explanation of the behaviour of that factors, this same model could be used as a project itself.

If a Specific Artificial Intelligence for Artificial Research by Deduction analysing the cloud of points related to the consumption of some product over time, is able to figure out the most rational equation (rational hypothesis) behind the cloud of points, this rational equation as rational hypothesis could be included directly in the global model in the Modelling System, and as a project could be included in the Decisional System as a mathematical project in order to decide what production is necessary at any time to cover the demand of this product on the market.

If the same Specific Artificial Intelligence for Artificial Research by Deduction, related to the same product, has a different cloud of points, about the quantity of raw materials, energy, fuel, or components necessary for some production level under certain conditions of efficiency, the most rational equation (rational hypothesis) behind this cloud of points could be included as a single model in the global model, and as a single project in the global project, in order to make decisions about, giving a necessary production level, how many raw materials or components is necessary to order previously.

If the same Specific Artificial Intelligence for Artificial Research by Deduction, having a rational hypothesis/model/project about the consumption of some product, and the rational hypothesis/model/project about how many raw materials, energy, fuel, or components are necessary in the production process, automatically: according to the necessary production to achieve at any time based on the first equation, the Specific Artificial Intelligence for Artificial Research by Deduction, based on the second equation, can make decisions about the quantity of raw materials, energy, fuel or components, will be necessary.

The necessity to interconnect rational hypotheses, single models, single projects, in the global model and global project, is referred to as the necessity of linking automatically, in the global model and the global project, those rational hypotheses associated with.

I have given an example applied to a Specific Artificial Intelligence for Artificial Research by Deduction, but this job, once the standardization process has started, is a task that must be done directly within the Global Artificial Intelligence by that Specific Artificial Intelligence for Artificial Research by Deduction but now transformed into a specific deductive program, a work that is going to be harder because what the Global Artificial Intelligence must do later, is not only to relate rational hypothesis within the same subject (science, discipline, activity), the Global Artificial Intelligence must be able to interconnect rational equations (rational hypothesis) from any science, discipline, activity with rational hypothesis equations (rational hypothesis) belonging to different sciences, disciplines, or activities.

For instance, given the necessary global production of some product whose consumption requires bank loans, for instance, housing or industrial machinery, the interconnection of rational equations of these products with the global rational equation in the global bank system, assessing the impact of consumption of these products in the global market, assessing the possibility to make adjustments in the rate interest for these products or the global interest.

Or, for instance, given a rational hypothesis explaining the probability of some natural disasters across the world and their impact on the economy, the setting of automatic decisions on the economy in the predicted area where an extreme natural disaster is about to happen.

Due to the high level of decision traffic in the first Global Artificial Intelligence, the only way to slow down the pressure over the first Decisional System is standardizing the method to transform, by artificial learning, as many decisions as possible into automatic decisions in addition to start as soon as possible the fifth phase for the construction of the first particular applications for particular programs.

Along with the challenge of how to interconnect rational hypotheses, models, and projects, the next challenge is going to be how to distinguish between full contradictions and partial contradictions between rational hypotheses, models, and projects.

In total, there are seven rational adjustments in the standardised Decisional System. The first rational adjustment for normal decisions is made in the first stage of the standardised Decisional System when any new decision is filed by the Modelling System.

When the Modelling System files a new decision in its corresponding file, according to: sub-factoring level, sub-section, priority level; automatically, the Decisional System in the first stage must carry out the first assessment: quick rational check for quick decisions, and the first rational adjustment for normal decisions, as it was explained in the last post "First stage in the standardized Decisional System".

As I have explained before, the most important reason to consider the largest possible number of decisions as quick or automatic decisions is to avoid a traffic jam in the traffic of decisions. The global Decisional System must be able to process trillions and trillions of decisions per minute, second, or less.

Having made the first rational adjustment for normal decisions in the first stage in the standardised Decisional System, the next six rational adjustments take place in the second stage, being also rational adjustments only for normal decisions, unless there is at the same time in the same space more than one extreme decision.

If there is a volcanic eruption in Iceland, and two different helicopters have been sent to rescue people in the same area, but the priority of one of them is higher because it is going to rescue a larger number of people, in case of contradiction between their single projects once they are included in the global project, is the project with the lowest priority the one to be adjusted to that other project with higher priority.

As an adaptation rule, in Artificial Intelligence, having two elements, one superior and the other inferior, needing to be adapted, the inferior one is the one that needs to be adapted, not the superior one.

Unless in the same position, there is more than one extreme priority decision, priority decisions must not be an object of rational adjustment. Only if in the same position there is more than one extreme priority decision, there must be a rational adjustment on these extreme priority decisions in case of contradictions between them, always adapting the inferior one with the lower priority to the superior one with the higher priority.

Unless there is more than one extreme decision in the same position, normally extreme decisions must not be adjusted; the normal decisions must be adjusted to the extreme priority decisions, if any, and the normal decisions among themselves are going to be at the same time adjusted following as well the **adaptation rule, in case of contradiction between two decisions, the inferior is adapted to the superior.**

In total, the seven rational adjustments are:

- First rational adjustment, in the database of decisions, the only one in the first stage of the Decisional System, as soon any decision is filed by the Modelling System in its corresponding file according to sub-factor, sub-section, priority; the Decisional System tracks the database of decisions looking for contradictions between the new decision and any other already included.

- Second rational adjustment, once the single project of any decision is included in the global project, the adjustment of any possible contradiction between this new decision with respect to any other already included decision, as well as the adjustment of any decision already included with respect to any extreme priority decision.

- Third rational adjustment, is any adjustment in the actual project because of contradictions between real data from the matrix and any project in the global project.

- Fourth rational adjustment, any adjustment in the prediction virtual project, especially because of the inclusion of extreme priority decisions, along with any possible repercussion that in the future could have any previous adjustment in the global and actual projects.

- Fifth rational adjustment, any adjustment in the evolution virtual project, especially because of the inclusion of extreme priority decisions, along with any possible repercussion that the evolution project could have on any previous adjustment in global, actual, and prediction projects.

- Sixth rational adjustment, any adjustment because of contradictions between the evolution virtual project and real data from the global matrix, as long as every single predicted moment during the evolution is coming.

- Seventh rational adjustment, any adjustment because of contradictions between the prediction virtual project and the global matrix as long as the **predicted future point** is closer.

In every rational adjustment, once a contradiction is identified, there are two possible options: if full contradiction is identified, the elimination of that decision with the lower priority. If partial contradiction, the adjustment of the decision with lower priority.

The adjustment of any decision, like any possible modification in any rational hypothesis having found partial contradictions on the rational checks in the Modelling System, will be made depending on the nature of the rational hypothesis or decision.

The easiest decisions to adjust are those obtained by Probability and Deduction. If there is a contradiction between decisions made by Probability and Deduction, so there is a correlation between: rational hypotheses, models, projects; because practically all of them have been drawn directly over the cloud of points when the deduction was made, the rational hypothesis/model/project as equation with partial contradictions respect to other decision with higher level of priority, is a rational hypothesis/model/project to be adapted through transformations in the equations in order to transform the contradictory equation into another one without contradictions respect to that other superior decision.

If an Specific Artificial Intelligence for the Artificial Research by Deduction has a global project in which there are interconnected different rational equations, one of them explaining the necessary production of some product according to the demand, and other one explaining how many inputs are necessary for that production, at any time that there is a change in the global matrix because of a change in the behaviour of any factor related to these equations, for instance a change in the consumption tendency of this product, as soon the Artificial Intelligence realise a change in the rational hypothesis of consumption, this change must be reflected in the global model and the global project, adjusting the equation for the production of that product to the new changes in the consumption, and

adjusting the necessary inputs for that production in order to make decisions about: what production is necessary now according to the new changes in the consumption, and in order to produce that amount of products, how many inputs are now necessary.

All these changes at the end what they are going to demand is a transformation of the original equations, in order to be transformed into the new behaviour observed in the cloud of points. Once the rational hypothesis has been transformed into the new current conditions in the behaviour in the cloud of points, the adjustments are done.

Rational adjustments in mathematical projects, based on mathematical models, based on rational hypotheses, based on Probability and Deduction (assigning the correct pure reason, equations, to a set of N factors, according to the cloud of points in a space from data taken from the N chosen factors in the global matrix), are in essence algebraic transformations, transforming the equations as long as new conditions or contradictions are registered in any factor in the matrix, changing the shape of the cloud of points of all those equations in which that factor is on.

Along with Probability and Deduction, a set of ideas that I have been developing since I started the Decisional System, would be the trigonometric correlations.

If it is possible to set up the proportionality between two factors or set of factors (equation) as sides of a right triangle, and it is possible to determine, based on this probability, the grade of the relation between the two factors as long as any of them changes, is possible to make adjustments according to the trigonometrical correlation.

For instance, knowing the consumption of some product under some circumstances, having a proportionality (tangent) between circumstances and consumption, decisions about the production of that product as long as there are changes or predicted changes in the tangent.

Probability and Deduction and trigonometrical correlations could be really useful, if the consumption of some product is an equation explaining one side of this right

triangle, and the explanation of these circumstances are explained in other different equations. The trigonometrical correlation between consumption and circumstances is, in fact, the tangent between these two equations, according to changes in the tangent (trigonometrical correlations), due to changes in the corresponding cloud of points in which any of these equations are based on (Probability and Deduction), would be possible to make automatically rational adjustments on the decisions to make.

Another method to make rational adjustments is artificial learning, having the Decisional System access the global matrix in the actual projects. If one decision is on a sunny Sunda my AI friend Yolanda wants to wear jeans, but when this decision is projected, the jeans are in the laundry, having access to the database in the first stage of Yolanda, the Decisional System could resolve the situation deciding to choose other option providing that this other option is not reason for any contradiction, such wearing shorts, if it does not suppose a contradiction, because it is Sunday so she does not work today, the Decisional System without contradiction can choose perfectly shorts instead of jeans.

Finally, maths problems, experimentation in Specific Artificial Intelligence solving mathematical projects: identifying factors in a problem, identifying the operations to do, resolving the operation doing the operations; is another method for adjustments between decisions. Given a partial contradiction, identifying the problem, to resolve the problem through the correct pure operations.

In the construction of the Global Artificial Intelligence what is going to be a key factor is what I call “Probability and Deduction”: making rational equations (rational hypothesis), assigning the correct equation to a set of factors based on the cloud of points, so the same rational equation (rational hypothesis) in the deduction process, is the at the same time the model and the project to make decisions related to these factors.

Another important thing to note is the possibility that one rational hypothesis does not necessarily get only one equation. If one cloud of points has different distinguishable groups with different levels of density, it is possible to make an equation system, and these multiple equations belong to the same rational hypothesis.

In fact, as long as more and more rational hypotheses are transformed into factors as options and included within the global matrix, there will be a moment in which more and more rational hypotheses are, in fact, an equation system, because within the factors are already integrated old rational hypothesis transformed into factors as options.

At any time that a rational adjustment is made in any project, based on any rational hypothesis, included in others projects or rational hypotheses, these other projects and rational hypotheses must be adjusted to the new conditions.

Ultimately, the continuous cycle of adjustments will evolve into an ongoing self-replication process, ensuring adaptive optimisation within the Global Artificial Intelligence framework.

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